

REMARKS

The office action of September 12, 2003, has been carefully considered.

It is noted that the drawings are objected to under 37 C.F.R. 1.83(a).

The specification is objected to on formal grounds.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph.

Claim 5 is objected to under 37 C.F.R. 1.75.

Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) over the patent to Graziano in view of the patent to Pitts.

Claims 2-4 are rejected under 35 U.S.C. 103(a) over Graziano in view of Pitts and further in view of the patent to Rush et al.

In connection with the Examiner's objection to the drawings, applicant respectfully submits that all the features of the claimed invention are illustrated in the drawings. Applicant has canceled the original claims and added new claims 8-20. The train, the safety devices, the station and the station platform are not part of the present invention and thus do not need illustration. Those skilled in the art would readily understand what these things are and their illustration is not necessary for a complete understanding of the invention.

In view of these considerations it is respectfully submitted that the objection to the drawings is overcome and should be withdrawn.

In connection with the Examiner's objections to the specification, applicant has attached hereto an Abstract of the Disclosure and has amended the specification to include section headings. The specification has also been amended to provide support for the subject matter recited in the claims.

In view of these considerations it is respectfully submitted that the objections to the specification are overcome and should be withdrawn.

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In connection with the title, applicant has canceled the original title and submitted a new title which is believed to be more descriptive of the invention.

In view of the Examiner's rejections of the claims, applicant has canceled claims 1-7 and added new claims 8-20.

It is respectfully submitted that the claims now on file contain subject matter which is sufficiently described in the specification so as to enable one skilled in the art to make and/or use the invention. Applicant submits that those skilled in the art know how to reduce current supplied to the motor. A detailed description of an apparatus for doing so is not necessary for a thorough understanding of the invention by those skilled in the art. The specific structure of such an apparatus is not of importance to the invention. Similarly, the specific construction of any structure for measuring the time interval, measuring the speed of the train and receiving a signal from a transponder is not of importance to the presently claimed invention. Those skilled in the art are aware of such structures and can easily understand the present invention without a detailed discussion of such structures being provided. How these various speeds or time intervals are measure is not important, what is important is that

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they are measured, and applicant submits that those skilled in the art know how to make such measurements.

In view of these considerations it is respectfully submitted that the rejection of claims 1-7 under 35 U.S.C. 112, first paragraph is overcome and should be withdrawn.

It is respectfully submitted that the claims now on file particularly point out and distinctly claim the subject matter which applicant regards as the invention. In writing the new set of claims applicant has taken into consideration the points raised by the Examiner relative to claims 1-7. Furthermore, the duplication between claims 5 and 7 has been removed.

In view of these considerations it is respectfully submitted that the rejection of claims 1-7 under 35 U.S.C. 112, second paragraph, and the objection to claim 5 under 37 C.F.R. 1.75 are overcome and should be withdrawn.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references and particularly to the patent to Graziano, it can be seen that this patent discloses an automatic control system for a sliding door. In the presently claimed invention the motor, free wheel and brake or coupling for the fixed part of the free wheel provide a specific functionality in that by a reduction in current an undesired opening of the door leaf is hindered, and in that the door during normal drive is controlled in the closed position without running the motor. Graziano does not teach such a process or construction. Graziano only moves the door leaf and the spindle 3 in a force-locking fashion via the springs in the elastically deformable coupling 5. When the motor is off (or even if it were braked by a non-disclosed brake) the door can still be moved open and closed since the elastically deformable coupling allows this movement in a relatively wide range by applying a steady force against the coupling. This range must be fairly large since the coupling must also act as a shock absorber. Thus, the door of Graziano requires, for each respective drive, additional components that secure the fixing of the doors in the closed end position. Such components are not need in the presently claimed invention.

The patent to Pitts discloses a door operating and locking device. The Examiner states that this reference teaches a free

wheel in Fig. 2 without a reference numeral. After carefully reading the patent applicant could find no mention of a free wheel, nor could applicant find any component that has a similar operation or function. Thus, applicant respectfully submits that Pitts does not teach a free wheel.

In Pitts the door leaf 5 is guided along a track 9. A spindle 14 is attached to the door at one end and the other end is fixed by bearings 20 to the left and right of the spindle drive gear 15. Since the spindle can not turn due to being attached to the door leaf, it is pushed by rotation of the drive gear 15 and takes the door leaf with it. The gear wheel 15 is driven by a worm gear 16 that is attached to the shaft of the motor 19. An electric brake 37 operates on the motor 19.

The change of the rotation of the drive gear 15 in the translatory movement of the spindle 13 results from a pin 23 that is mounted in the drive gear so as to be radially movable. The radial inner end engages in the thread 14 of the spindle 13. This engagement is not fixed but instead is accomplished via a spring 26 that presses the pin 23 radially inwardly. When the door leaf now moves into one of the end regions, a collar 47 with a beveled face 48 that causes a lever 24 to be actuated that pushes the pin

23 against the force of a spring 26 and lifts the pin out of the thread 14 of the spindle 13. This is how the form locking connection between the motor and the door leaf is disengaged at the ends of the opening and closing movement.

In Pitts, which is dated 1913, the drive is manually controlled. Pitts only discloses automatic checking the maintaining or engagement of edge conditions. Pitts does not disclose how the pin 23 falls back into the thread 14 when the motor turns in the opposite direction. Obviously a manual driving of the door leaf and a corresponding loosening of the pin 23 was the state of the art in 1913.

This reference does not teach a free wheel, and the movement of the door in the closing direction is not always possible, but instead during normal drive only by actuating the motor in the correct direction.

The Examiner combined these references in determining that claims 1 and 5-7 are unpatentable over such a combination. Applicant respectfully submits that the combination does not teach a method or control apparatus for controlling movement of a sliding door using a free wheel as in the presently claimed

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invention. Furthermore, the combination does not teach reducing the current to the door drive to reduce the closing force in the closing area, as in the presently claimed invention.

In view of these considerations it is respectfully submitted that the rejection of claims 1 and 5-7 under 35 U.S.C. 103(a) over a combination of the above-discussed references is overcome and should be withdrawn.

As for the patent to Rush et al. that was combined with Graziano and Pitts in rejecting claims 2-4, this reference has also been considered. It is submitted that Rush et al. add nothing to the teachings of the other references so as to lead to the presently claimed invention as discussed above. Therefore, it is respectfully submitted that the rejection of claims 2-4 under 35 U.S.C. 103(a) is overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450 Alexandria, VA 22313-1450, on March 12, 2004.

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Date: March 12, 2004